Name:

p1105: Factoring when $a = 1$ (v0)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - 9x + 20$

   $$(x - 5)(x - 4)$$

2. Factor $x^2 + 4x + 4$

   $$(x + 2)(x + 2)$$

3. Factor $x^2 + 3x - 28$

   $$(x + 7)(x - 4)$$

4. Factor $x^2 - 11x + 28$

   $$(x - 4)(x - 7)$$

5. Factor $x^2 + 2x - 24$

   $$(x - 4)(x + 6)$$

6. Factor $x^2 + x - 30$

   $$(x + 6)(x - 5)$$

7. Factor $x^2 - x - 72$

   $$(x - 9)(x + 8)$$

8. Factor $x^2 + 6x - 16$

$(x - 2)(x + 8)$

9. Factor $x^2 + 6x + 8$

$(x + 4)(x + 2)$

10. Factor $x^2 - 6x + 5$

$(x - 1)(x - 5)$

11. Factor $x^2 - x - 56$

$(x + 7)(x - 8)$

12. Factor $x^2 + 14x + 45$

$(x + 9)(x + 5)$

13. Factor $x^2 - 2x - 3$

$(x + 1)(x - 3)$

14. Factor $x^2 - 5x - 36$

$(x - 9)(x + 4)$

15. Factor $x^2 - 3x - 18$

$(x + 3)(x - 6)$